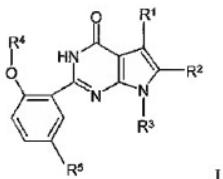


**Claims:**

1. (currently amended) A compound of the formula I :



wherein R<sup>1</sup> is H; C<sub>1</sub>-C<sub>4</sub> branched or straight chain alkyl; C<sub>1</sub>-C<sub>4</sub> halogenated branched or straight chain alkyl; C<sub>2</sub>-C<sub>6</sub> alkenyl; C<sub>2</sub>-C<sub>4</sub> alkynyl; pyridyl, pyrimidinyl, imidazolyl; except H, the above substituents may be optionally substituted with one or more following groups: halogen, cyano, nitro, hydroxyl, carboxyl, guanidino, C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>4</sub> alkanoyl, C<sub>2</sub>-C<sub>5</sub> cycloalkyl, substituted phenyl, CONR<sup>6</sup>R<sup>7</sup>, NR<sup>6</sup>R<sup>7</sup>, CO<sub>2</sub>R<sup>7</sup>, NHSO<sub>2</sub>R<sup>8</sup> or SO<sub>2</sub>NR<sup>9</sup>R<sup>10</sup>;

R<sup>2</sup> is H; C<sub>1</sub>-C<sub>2</sub> branched or straight chain alkyl; C<sub>1</sub>-C<sub>2</sub> halogenated branched or straight chain alkyl; C<sub>2</sub>-C<sub>6</sub> alkenyl; C<sub>2</sub>-C<sub>4</sub> alkynyl; substituted phenyl; except H, the above substituents may be optionally substituted with one or more following groups: halogen, cyano, nitro, hydroxyl, carboxyl, guanidino, C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>4</sub> alkanoyl, C<sub>2</sub>-C<sub>5</sub> cycloalkyl, CONR<sup>6</sup>R<sup>7</sup>, NR<sup>6</sup>R<sup>7</sup>, CO<sub>2</sub>R<sup>8</sup>, NHSO<sub>2</sub>R<sup>9</sup> or SO<sub>2</sub>NR<sup>10</sup>R<sup>11</sup>;

R<sup>3</sup> is H; C<sub>1</sub>-C<sub>6</sub> branched or straight chain alkyl which may be optionally substituted with C<sub>2</sub>-C<sub>6</sub> cycloalkyl or C<sub>1</sub>-C<sub>4</sub> alkoxy; C<sub>2</sub>-C<sub>4</sub> alkenyl; C<sub>2</sub>-C<sub>4</sub> alkynyl;

R<sup>4</sup> is H; C<sub>1</sub>-C<sub>6</sub> branched or straight chain alkyl which may be optionally substituted with C<sub>2</sub>-C<sub>6</sub> cycloalkyl or C<sub>1</sub>-C<sub>4</sub> alkoxy; C<sub>2</sub>-C<sub>4</sub> alkenyl; C<sub>2</sub>-C<sub>4</sub> alkynyl;

R<sup>5</sup> is H; C<sub>1</sub>-C<sub>4</sub> branched or straight chain alkyl which may be optionally substituted with OH, NR<sup>6</sup>R<sup>7</sup>, CN, CONR<sup>6</sup>R<sup>7</sup> or CO<sub>2</sub>R<sup>8</sup>; C<sub>2</sub>-C<sub>4</sub> alkenyl which may be optionally substituted with

CN, CONR<sup>6</sup>R<sup>7</sup> or CO<sub>2</sub>R<sup>8</sup>; C<sub>2</sub>-C<sub>4</sub>alkoxyl optionally substituted with NR<sup>6</sup>R<sup>7</sup>; (C<sub>2</sub>-C<sub>4</sub>alkoxyl)C<sub>1</sub>-C<sub>2</sub> branched or straight chain alkyl optionally substituted with OH or NR<sup>6</sup>R<sup>7</sup>; CONR<sup>6</sup>R<sup>7</sup>; CO<sub>2</sub>R<sup>8</sup>; halogen; NR<sup>6</sup>R<sup>7</sup>; NHSO<sub>2</sub>NR<sup>6</sup>R<sup>7</sup>; NHSO<sub>2</sub>R<sup>9</sup>; SO<sub>2</sub>NR<sup>10</sup>R<sup>11</sup>; or phenyl, pyridyl, pyrimidinyl, imidazolyl, oxazolyl, thiazolyl, thienyl, or triazolyl, either of which is optionally substituted with methyl;

R<sup>6</sup> and R<sup>7</sup> are each independently H or C<sub>1</sub>-C<sub>4</sub>branched or straight chain alkyl; or R<sup>6</sup> and R<sup>7</sup> together with their attached nitrogen atom form pyrrolinyl, piperidyl, morpholinyl, 4 N(R<sup>12</sup>)piperazinyl or imidazolyl, either of which is optionally substituted with methyl or hydroxyl;

R<sup>8</sup> is H; C<sub>1</sub>-C<sub>6</sub> branched or straight chain alkyl-optionally substituted with C<sub>1</sub>-C<sub>4</sub>alkoxyl, C<sub>1</sub>-C<sub>4</sub>alkylamino, dialkylamino; substituted phenyl;

R<sup>9</sup> is C<sub>1</sub>-C<sub>3</sub>alkyl optionally substituted with NR<sup>6</sup>R<sup>7</sup>;

R<sup>10</sup> and R<sup>11</sup> are each independently H or C<sub>1</sub>-C<sub>12</sub> branched or straight chain alkyl; C<sub>1</sub>-C<sub>6</sub>halogenated branched or straight chain alkyl; C<sub>2</sub>-C<sub>6</sub>alkenyl; C<sub>2</sub>-C<sub>6</sub>alkynyl or C<sub>3</sub>-C<sub>6</sub>cycloalkyl; or R<sup>10</sup> and R<sup>11</sup> taken together to form a pyrrolinyl, pyrrolinone group, piperidyl, morpholinyl, 4-N(R<sup>12</sup>)piperazinyl, which are optionally substituted with OH, CN, CO<sub>2</sub>R<sup>8</sup>; C<sub>1</sub>-C<sub>4</sub> branched or straight chain alkyl, C<sub>1</sub>-C<sub>3</sub>alkoxyl, NR<sup>14</sup>R<sup>15</sup> or CONR<sup>14</sup>R<sup>15</sup>; substituted phenyl, or C<sub>1</sub>-C<sub>6</sub> branched or straight chain alkyl substituted with substituted phenyl, the said groups are optionally further substituted with OH, CO<sub>2</sub>R<sup>8</sup>, NR<sup>14</sup>R<sup>15</sup>, CONR<sup>14</sup>R<sup>15</sup>, or linked together with another substituted phenyl by a carbonyl group;

R<sup>12</sup> is H; C<sub>1</sub>-C<sub>6</sub> branched or straight chain alkyl which may be optionally substituted with phenyl, C<sub>2</sub>-C<sub>3</sub> alkyl substituted by hydroxyl, or C<sub>1</sub>-C<sub>4</sub> alkoxyl; C<sub>1</sub>-C<sub>3</sub> fluoroalkyl; C<sub>2</sub>-C<sub>6</sub> alkenyl; C<sub>2</sub>-C<sub>6</sub> alkynyl; or C<sub>3</sub>-C<sub>6</sub>cycloalkyl; R<sup>12</sup> is H; C<sub>1</sub>-C<sub>6</sub> branched or straight chain alkyl; C<sub>1</sub>-C<sub>6</sub> branched or straight chain alkyl substituted with C<sub>1</sub>-C<sub>3</sub> alkoxyl; C<sub>2</sub>-C<sub>6</sub> branched or straight chain alkyl substituted with hydroxyl; C<sub>2</sub>-C<sub>6</sub> branched or straight chain alkyl substituted with NR<sup>14</sup>R<sup>15</sup>; C<sub>2</sub>-C<sub>6</sub> branched or straight chain alkyl substituted with phenyl; C<sub>1</sub>-C<sub>6</sub> branched or straight chain alkyl substituted with CONR<sup>14</sup>R<sup>15</sup>CO<sub>2</sub>NR<sup>8</sup>; C<sub>2</sub>-C<sub>6</sub> branched or straight chain hydrocarbyl substituted with CO<sub>2</sub>R<sup>8</sup>; C<sub>2</sub>-C<sub>6</sub> branched or straight chain hydrocarbyl having substituted phenyl as

substituent;  $\text{CO}_2\text{R}^8$ ,  $\text{CONR}^{14}\text{R}^{15}$ ,  $\text{CSNR}^{14}\text{R}^{15}$  or  $\text{C}(\text{NH})\text{NR}^{14}\text{R}^{15}$ ;  $\text{C}_1\text{-C}_2$  halogenated branched or straight chain alkyl;  $\text{C}_2\text{-C}_6$  alkenyl;  $\text{C}_2\text{-C}_6$  alkynyl or  $\text{C}_3\text{-C}_6$  eyleloalkyl; or polyethylene glycol group ( $n=2\text{-}20$ ), which is optionally substituted with  $\text{C}_1\text{-C}_6$  alkyl on its terminal;

$\text{R}^{14}$  and  $\text{R}^{15}$  are each independently H;  $\text{C}_1\text{-C}_4$  branched or straight chain alkyl;  $\text{C}_2\text{-C}_4$  branched or straight chain alkyl substituted with  $\text{C}_1\text{-C}_2$  alkoxyl; or  $\text{C}_2\text{-C}_4$  branched or straight chain alkyl substituted with hydroxyl; or  $\text{R}^{14}$  and  $\text{R}^{15}$  together with their attached nitrogen atom form a pyrrolinyl, pyrrolinone group, piperidyl or morpholinyl; and

the substituted phenyl refers to a phenyl which is substituted with one or more groups selected from  $\text{C}_1\text{-C}_4$  alkoxyl, halogen, cyano,  $\text{CF}_3$ ,  $\text{OCF}_3$ ,  $\text{C}_1\text{-C}_4$  branched or straight chain alkyl on the phenyl ring; or their pharmaceutically acceptable salts.

2-3. (Cancelled)

4. (Previously amended) The compound according to claim 1, wherein the compound is selected from a group consisting of:

2-[2-ethoxy-5-(4-ethylpiperazinyl-1-sulfonyl)phenyl]-5-methyl-7-n-propyl-3,7-dihydropyrrolo[2,3-d]pyrimidin-4-one, the monohydrochloride, dihydrochloride and other possible hydrochloride thereof;

2-[2-methoxy-5-(4-ethylpiperazinyl-1-sulfonyl)phenyl]-5-methyl-7-n-propyl-3,7-dihydropyrrol o[2,3-d]pyrimidin-4-one, and the hydrochloride thereof;

2-[2-n-propoxy-5-(4-ethylpiperazinyl-1-sulfonyl)phenyl]-5-methyl-7-n-propyl-3,7-dihydropyrrol o[2,3-d]pyrimidin-4-one, and the hydrochloride thereof;

2-[2-allyloxy-5-(4-ethylpiperazinyl-1-sulfonyl)phenyl]-5-methyl-7-n-propyl-3,7-dihydropyrrolo[2,3-d]pyrimidin-4-one, and the monohydrochloride, dihydrochloride and other possible hydrochloride thereof;

2-[2-n-propoxy-5-(4-ethylpiperazinyl-1-sulfonyl)phenyl]-5-ethyl-7-n-propyl-3,7-dihydropyrrol o[2,3-d]pyrimidin-4-one, the monohydrochloride, dihydrochloride and other possible hydrochloride

thereof;

2-[2-ethoxy-5-(4-methylpiperazinyl-1-sulfonyl)phenyl]-5-methyl-7-n-propyl-3,7-dihydropyrrol-  
o[2,3-d]pyrimidin-4-one, the monohydrochloride, dihydrochloride and other possible  
hydrochloride thereof;

2-[2-ethoxy-5-(4-methylpiperazinyl-1-sulfonyl)phenyl]-5-ethyl-7-  
n-propyl-3,7-dihydropyrrolo[2,3-d]pyrimidin-4-one, the monohydrochloride, dihydrochloride and  
other possible hydrochloride thereof;

2-[2-ethoxy-5-(4-ethoxycarbonylpiperazinyl-1-sulfonyl)phenyl]-5-  
methyl-7-n-propyl-3,7-dihydropyrrolo[2,3-d]pyrimidin-4-one, the monohydrochloride,  
dihydrochloride and other possible hydrochloride thereof;

2-[2-ethoxy-5-[4-(2-hydroxyethyl)piperazinyl-1-sulfonyl]  
phenyl]-5-methyl-7-n-propyl-3,7-dihydropyrrolo[2,3-d]pyrimidin-4-one, the monohydrochloride,  
dihydrochloride and other possible hydrochloride thereof;

2-[2-ethoxy-5-(pyrrolidinyl-1-sulfonyl)phenyl]-5-methyl-7-n-  
propyl-3,7-dihydropyrrolo[2,3-d]pyrimidin-4-one, the monohydrochloride, dihydrochloride and  
other possible hydrochloride thereof;

2-[2-ethoxy-5-[3-(2-oxy-pyrrolidin-1-yl)-n-propylamino-N-  
sulfonyl]phenyl]-5-methyl-7-n-propyl-3,7-dihydropyrrolo[2,3-d] pyrimidin-4-one, the  
monohydrochloride, dihydrochloride and other possible hydrochloride thereof;

2-[2-ethoxy-5-[2-(pyrrolidin-1-yl)-ethylamino-N-sulfonyl]phenyl]-5-methyl-7-n-propyl-3,7-dih-  
ydropyrrolo[2,3-d]pyrimidin-4-one, the monohydrochloride, dihydrochloride and other possible  
hydrochloride thereof;

2-[2-ethoxy-5-(morpholino-4-sulfonyl)phenyl]-5-methyl-7-n-propyl-3,7-dihydropyrrolo[2,3-d]p-  
yrimidin-4-one, the monohydrochloride, dihydrochloride and other possible hydrochloride  
thereof;

2-{2-ethoxy-5-[3-(morpholin-4-yl)-n-propylamino-N-sulfonyl]phenyl}-5-methyl-7-n-propyl-3,7-dihydropyrrolo[2,3-d]pyrimidin-4-one, the monohydrochloride, dihydrochloride and other possible hydrochloride thereof;

2-{2-ethoxy-5-[2-(morpholin-4-yl)-ethylamino-N-sulfonyl]phenyl}-5-methyl-7-n-propyl-3,7-dihydropyrrolo[2,3-d]pyrimidin-4-one, the monohydrochloride, dihydrochloride and other possible hydrochloride thereof;

2-[2-ethoxy-5-(2,6-dimethylmorpholino-N-sulfonyl)phenyl]-5-methyl-7-n-propyl-3,7-dihydropyrrolo[2,3-d]pyrimidin-4-one, the monohydrochloride, dihydrochloride and other possible hydrochloride thereof;

2-[2-ethoxy-5-(1-benzylpiperidyl-4-aminosulfonyl)phenyl]-5-methyl-7-n-propyl-3,7-dihydropyrrolo[2,3-d]pyrimidin-4-one, the monohydrochloride, dihydrochloride and other possible hydrochloride thereof;

2-{2-ethoxy-5-[2-(piperidin-1-yl)ethylamino-1-sulfonyl]phenyl}-5-methyl-7-n-propyl-3,7-dihydropyrrolo[2,3-d]pyrimidin-4-one, the monohydrochloride, dihydrochloride and other possible hydrochloride thereof;

2-[2-ethoxy-5-(4-benzylpiperazinyl-1-sulfonyl)phenyl]-5-methyl-7-n-propyl-3,7-dihydropyrrolo[2,3-d]pyrimidin-4-one, the monohydrochloride, dihydrochloride and other possible hydrochloride thereof;

2-[2-ethoxy-5-(4-phenylpiperazinyl-1-sulfonyl)phenyl]-5-methyl-7-n-propyl-3,7-dihydropyrrolo[2,3-d]pyrimidin-4-one, the monohydrochloride, dihydrochloride and other possible hydrochloride thereof;

2-[2-ethoxy-5-(piperazinyl-1-sulfonyl)phenyl]-5-methyl-7-n-propyl-3,7-dihydropyrrolo[2,3-d]pyrimidin-4-one, the monohydrochloride, dihydrochloride and other possible hydrochloride thereof;

2-[2-ethoxy-5-(4-benzo[1,3]dioxol-5-yl-methylpiperazinyl-1-

sulfonyl)phenyl]-5-methyl-7-n-propyl-3,7-dihydropyrrolo[2,3-d] pyrimidin-4-one, the monohydrochloride, dihydrochloride and other possible hydrochloride thereof;

2-{2-ethoxy]-5-[4-(3-phenyl-n-propan-1-yl)piperidyl-1-sulfonyl] phenyl}-5-methyl-7-n-propyl-3,7-dihydropyrrolo[2,3-d]pyrimidin-4-one, the monohydrochloride, dihydrochloride and other possible hydrochloride thereof;

2-[2-ethoxy]-5-(n-propylamino-1-sulfonyl)phenyl]-5-methyl-7-n-propyl-3,7-dihydropyrrolo[2,3-d]pyrimidin-4-one, the monohydrochloride, dihydrochloride and other possible hydrochloride thereof;

2-{2-ethoxy]-5-[N,N-di(2-hydroxyethyl)aminosulfonyl]phenyl}-5-methyl-7-n-propyl-3,7-dihydropyrrolo[2,3-d]pyrimidin-4-one, the monohydrochloride, dihydrochloride and other possible hydrochloride thereof;

2-{2-ethoxy]-5-[N-(2-hydroxyethyl)-N-methylaminosulfonyl]phenyl}-5-methyl-7-n-propyl-3,7-dihydropyrrolo[2,3-d]pyrimidin-4-one, the monohydrochloride, dihydrochloride and other possible hydrochloride thereof;

2-{2-ethoxy]-5-[N-(2-hydroxyethyl)-N-ethylaminosulfonyl]phenyl}-5-methyl-7-n-propyl-3,7-dihydropyrrolo[2,3-d]pyrimidin-4-one, the monohydrochloride, dihydrochloride and other possible hydrochloride thereof;

2-{2-ethoxy]-5-[N-(2-hydroxyethyl)-N-n-butylaminosulfonyl]phenyl}-5-methyl-7-n-propyl-3,7-dihydropyrrolo[2,3-d]pyrimidin-4-one, the monohydrochloride, dihydrochloride and other possible hydrochloride thereof;

2-[2-ethoxy]-5-(p-ethoxycarboxylphenylamino-N-sulfonyl)phenyl]-5-methyl-7-n-propyl-3,7-dihydropyrrolo[2,3-d]pyrimidin-4-one, the monohydrochloride, dihydrochloride and other possible hydrochloride thereof;

2-[2-ethoxy]-5-(o-benzoylphenylamino-N-sulfonyl)phenyl]-5-methyl-7-n-propyl-3,7-dihydropyrrolo[2,3-d]pyrimidin-4-one, the monohydrochloride, dihydrochloride

and other possible hydrochloride thereof;

2-[2-ethoxy-5-(N2-acethydrazido-N1-sulfonyl)phenyl]-5-methyl-7-n-propyl-3,7-dihydropyrrolo[2,3-d]pyrimidin-4-one, the monohydrochloride and dihydrochloride and other possible hydrochloride thereof;

2-[2-ethoxy-5-(2-dimethylaminoethylamino-N-sulfonyl)phenyl]-5-methyl-7-n-propyl-3,7-dihydropyrrolo[2,3-d]pyrimidin-4-one, the monohydrochloride, dihydrochloride and other possible hydrochloride thereof;

2-[2-ethoxy-5-(4-ethylpiperazinyl-1-sulfonyl)phenyl]-5-ethyl-7-n-propyl-3,7-dihydropyrrolo[2,3-d]pyrimidin-4-one, the monohydrochloride, dihydrochloride and other possible hydrochloride thereof;

2-[2-ethoxy-5-(4-ethylpiperazinyl-1-sulfonyl)phenyl]-5-morpholinomethyl-7-n-propyl-3,7-dihydropyrrolo[2,3-d]pyrimidin-4-one, the monohydrochloride, dihydrochloride and other possible hydrochloride thereof;

2-[2-ethoxy-5-(4-ethylpiperazinyl-1-sulfonyl)phenyl]-5-(pyrimidinyl-2)-methyl-7-n-propyl-3,7-dihydropyrrolo[2,3-d]pyrimidin-4-one, the monohydrochloride, dihydrochloride and other possible hydrochloride thereof; and

2-[2-ethoxy-5-(4-ethylpiperazinyl-1-sulfonyl)phenyl]-5-methyl-7-allyl-3,7-dihydropyrrolo[2,3-d]pyrimidin-4-one, the monohydrochloride, dihydrochloride and other possible hydrochloride thereof.

5. (canceled)

6. (currently amended) A pharmaceutical composition containing the compound according to ~~any one of claims 1 or 4 + 4~~ as an active ingredient and a pharmaceutically acceptable excipient.

7. (currently amended) A veterinary drug composition containing the compound according to ~~any one of claims 1 or 4 + 4~~ as an active ingredient and a veterinarianly acceptable excipient.

8-9. (canceled)

10. (currently amended) Intermediates for the manufacture of compound of formula I according to claim 1:

